^{48}Ca(^{9}Be,3nγ)   1978Na06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde	NDS 121, 1 (2014)	20-Jun-2014

Also includes ^{48}Ca(^{13}C,α3n) E=27.5-65 MeV and ^{48}Ca(^{11}B,p4n) E=40 MeV.
E=27 MeV, measured σ(E(^{9}Be),Eγ), σ(Eγ,θ), $\gamma\gamma$-coin, DSAM, Ge(Li).
Observed ΔJ=2 ground-state band extending up to the J$^\pi$=(10$^+$) level.

^{54}Cr Levels

E(level)	J$^{\pi\dagger}$	T$_{1/2}$$^{\#}$	Comments
0	0$^+$		
834.86 5	2$^{+\ddagger}$		
1823.89 15	4$^{+\ddagger}$	1.9 ps 6	
3222.33 18	6$^+$	0.49 ps 14	
4042.28 26	5$^+$	<0.12 ps	J$^\pi$: from multiplicity of transition and reaction mechanism.
4680.57 23	(8)$^+$	0.55 ps 7	
5362.70 28	7$^+$	0.24 ps 6	J$^\pi$: from multiplicity of transition and reaction mechanism.
6719.52 79	(10$^+$)	<0.10 ps	

† From the (J+2) to J character of the angular distributions and 4$^+$ assignment to the 1824-keV state, except as noted.
‡ From Adopted Levels.
$^{\#}$ Corrected for cascade feeding through the yrast levels and slow feeding via ^{54}V(β^-)^{54}Cr.

γ(^{54}Cr)

E$_\gamma$	I$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.‡	Comments
682.13 16	5.9	5362.70	7$^+$	4680.57	(8)$^+$	D	Mult.: from T$_{1/2}$ determined by DSAM, it is sufficient to assure that these transitions are predominantly dipole, see 1978Na06.
819.94 19	5.0	4042.28	5$^+$	3222.33	6$^+$	D	Mult.: from T$_{1/2}$ determined by DSAM, it is sufficient to assure that these transitions are predominantly dipole, see 1978Na06.
834.80 10	100	834.86	2$^+$	0	0$^+$		A$_2$=0.27 2, A$_4$=−0.01 2.
989.07 10	91	1823.89	4$^+$	834.86	2$^+$		A$_2$=0.28 2, A$_4$=−0.03 2.
1398.42 10	73	3222.33	6$^+$	1823.89	4$^+$	E2	A$_2$=0.29 2, A$_4$=−0.03 2.
1458.22 15	47	4680.57	(8)$^+$	3222.33	6$^+$	E2	A$_2$=0.36 2, A$_4$=−0.05 2.
2038.9 8	12.5	6719.52	(10$^+$)	4680.57	(8)$^+$	E2	A$_2$=0.29 4, A$_4$=0.

† From fitted angular distributions at E(^{9}Be)=27 MeV, normalized to 835γ.
‡ From the (J+2) to J character of the angular distributions, except as noted.
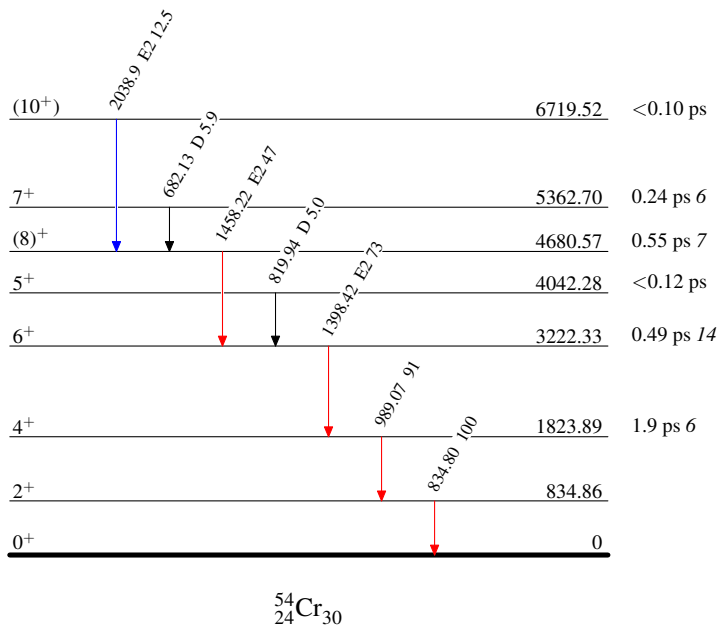
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Level Scheme

Intensities: Relative I$_\gamma$

Legend

I$_\gamma$ < 2%×I$_\gamma^{max}$
I$_\gamma$ < 10%×I$_\gamma^{max}$
I$_\gamma$ > 10%×I$_\gamma^{max}$

(10$^+$)	6719.52	<0.10 ps
7$^+$	5362.70	0.24 ps 6
(8)$^+$	4680.57	0.55 ps 7
5$^+$	4042.28	<0.12 ps
6$^+$	3222.33	0.49 ps 14
4$^+$	1823.89	1.9 ps 6
2$^+$	834.86	
0$^+$	0	

2038.9 E2 12.5
682.13 D 5.9
1458.22 E2 47
819.94 D 5.0
1398.42 E2 73
989.07 91
834.80 100

$^{54}_{24}$Cr$_{30}$